

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In the application of: Eldridge et al. Application No.: Unknown Filing Date: December 27, 2001 For: PROBE CARD ASSEMBLY AND KIT, AND METHODS OF USING SAME	Examiner: Unknown Group Art Unit: Unknown
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PRELIMINARY AMENDMENT

Box: New Application
Assistant Commissioner for Patents
Washington, D.C. 20231

Dear Sir:

Prior to examination of the above-identified patent application (which is filed herewith), please amend the application as follows:

In The Claims

Please cancel claim 1 without prejudice.

Please add new claims 43-57 as follows:

43. (New) A tested semiconductor device produced by a process comprising the steps of:
 - providing a wafer having a plurality of semiconductor devices thereon, each of said semiconductor devices including a plurality of electrical contact pads;
 - providing a probe card assembly, said probe assembly including a probe card having a plurality of electrical contacts, a probe substrate having a plurality of elongate, resilient probe elements, and a compliant interconnection structure electrically connecting said ones of said electrical contacts with corresponding ones of said probe elements;
 - contacting said wafer and said probe card assembly such that ones of said electrical contact pads of said semiconductor devices are in electrical contact with ones of said probe elements; and
 - testing said semiconductor devices.

44. (New) The tested semiconductor device of claim 43, wherein said process further comprises aligning tips of said probe elements with said corresponding electrical contact pads.

45. (New) The tested semiconductor device of claim 44, wherein said aligning tips of said probe elements includes altering an orientation of said probe substrate with respect to said probe card.

46. (New) The tested semiconductor device of claim 45, wherein said altering comprises moving a moveable element disposed so as to affect an orientation of said probe substrate with respect to said probe card.

47. (New) The tested semiconductor device of claim 44, wherein said aligning further comprises aligning said tips with an alignment plate.

48. (New) The tested semiconductor device of claim 43, wherein the process further comprises dicing said wafer to singulate said semiconductor devices.

49. (New) The tested semiconductor device of claim 43, wherein said probe substrate comprises a space transformer.

50. (New) A tested semiconductor device produced by a process comprising the steps of:
 providing a probe card comprising a plurality of electrical contacts;
 providing a probe substrate moveably fixed to said probe card and comprising a plurality of elongate, resilient probe elements, ones of said elongate resilient probe elements being in electrical communication with ones of said electrical contacts;
 aligning tips of said probe elements by altering an orientation of said probe substrate with respect to said probe card, said altering comprising moving a moveable element disposed so as to affect an orientation of said probe substrate with respect to said probe card;
 providing a semiconductor device;
 bringing said tips into contact with said semiconductor device; and

testing said semiconductor device.

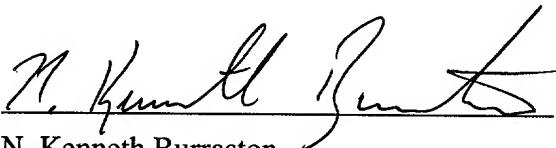
51. (New) The tested semiconductor device of claim 50, wherein said moveable element is threaded.
52. (New) The tested semiconductor device of claim 50, wherein said moveable element comprises a screw.
53. (New) The tested semiconductor device of claim 52, wherein said screw comprises a differential screw.
54. (New) The tested semiconductor device of claim 50, wherein moving said moveable element in a first direction causes at least a portion of said probe substrate to move toward said probe card.
55. (New) The tested semiconductor device of claim 54, wherein moving said moveable element in a second direction allows at least a portion of said probe substrate to move away from said probe card.
56. (New) The tested semiconductor device of claim 50, wherein said altering comprises actuating a servo mechanism disposed to alter a position of said probe substrate with respect to said probe card.
57. (New) The tested semiconductor device of claim 50, wherein said altering comprises actuating a piezoelectric actuator disposed to alter a position of said probe substrate with respect to said probe card.

REMARKS

By this Preliminary Amendment, Applicants cancel claim 1 and add new claims 43-57. Applicants previously canceled claims 2-42. Consequently, claims 43-57 are now pending in the application. No new matter has been added, and the new claims are fully supported by the original disclosure. Applicants respectfully assert that the new claims are in condition for allowance and ask for an early notice of allowability.

Respectfully submitted,

Date: December 27, 2001

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